

#2794 Store at -20°C

SCD1 (C12H5) Rabbit mAb



✓ 100 µl
(10 western blots)

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Entrez-Gene ID #6319
Swiss-Prot Acc. #000767

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IHC-P, IF-IC Endogenous	M	37 kDa	Rabbit IgG**

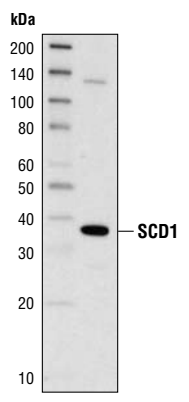
Background: Stearoyl-CoA desaturase 1 (SCD1) is a key lipogenic enzyme found in the endoplasmic reticulum that catalyzes the conversion of palmitoyl-CoA and stearoyl-CoA to palmitoleoyl-CoA (16:1) and oleoyl-CoA (18:1) (1-3). Palmitoleate and oleate are the major components of triglycerides, membrane phospholipids and cholesterol esters (1). SCD1-knockout mice show improved insulin sensitivity and reduced body fat (1). Disruption of SCD1 in mouse brown adipose tissue strengthens insulin signaling and results in increased translocation of Glut4 to plasma membrane and enhanced uptake of glucose (4). Furthermore, SCD1 is essential for the onset of diet-induced body weight gain (1) and insulin resistance in the liver (5).

Specificity/Sensitivity: SCD1 (C12H5) Rabbit mAb detects endogenous levels of total SCD1 protein.

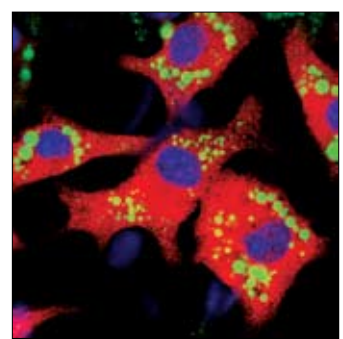
Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu35 of mouse SCD1.

Background References:

- (1) Ntambi, J.M. et al. (2002) *Proc. Natl. Acad. Sci. USA* 99, 11482-114866.
- (2) Kato, H. et al. (2006) *J. Cell. Sci.* 119, 2342-2353.
- (3) Ozols, J. (1997) *Mol. Biol. Cell* 8, 2281-2290.
- (4) Rahman, S.M. et al. (2005) *Am. J. Physiol. Endocrinol. Metab.* 288, E381-387.
- (5) Gutiérrez-Juárez, R. et al. (2006) *J. Clin. Invest.* 116, 1686-1695.



Western blot analysis of 3T3-L1 cell lysates using SCD1 (C12H5) Rabbit mAb.



Confocal immunofluorescent analysis of NIH/3T3-L1 cells, using SCD1 (C12H5) Antibody (red) showing cytoplasmic localization in differentiated cells. Lipid droplets have been labeled with BODIPY 493/503 (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:50
Immunohistochemistry (Paraffin)	1:200
Unmasking buffer:	Citrate
Antibody diluent:	TBST-5%NGS
Immunofluorescence (IF-IC)	1:100

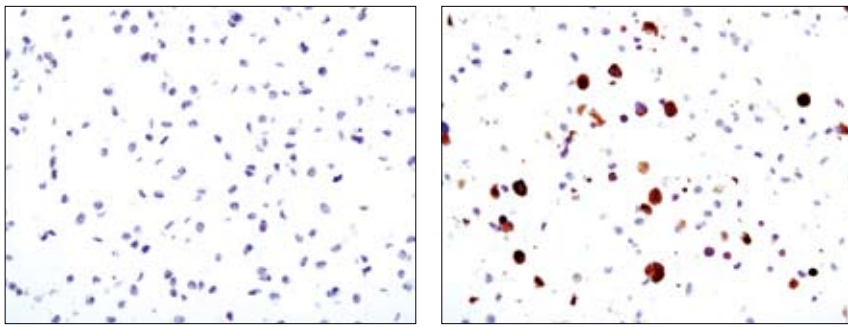
For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

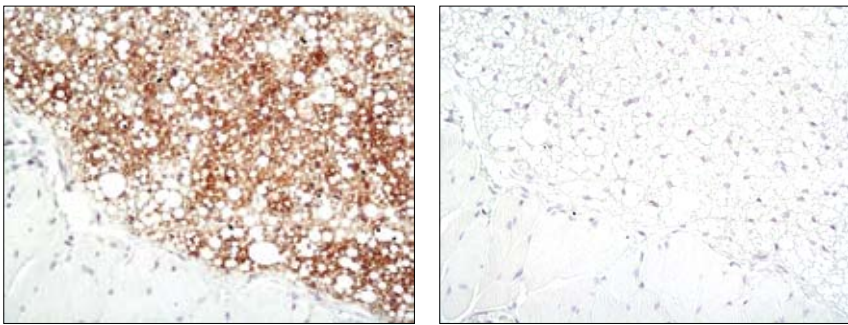
IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

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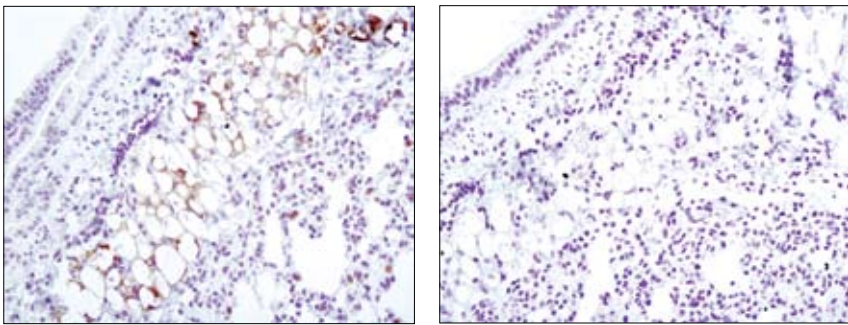
Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



Immunohistochemical analysis of paraffin-embedded 3T3-L1 cells undifferentiated (left) or differentiated (right) using SCD1 (C12H5) Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded mouse brown fat using SCD1 (C12H5) Rabbit mAb in the presence of control peptide (left) or antigen-specific peptide (right).



Immunohistochemical analysis of paraffin-embedded mouse lung using SCD1 (C12H5) Rabbit mAb (left) or without primary antibody (right).